

Date: Friday, 4/18/2008 11:54:09 AM
 User: Chantal Lavoie

Process Sheet

| | | | |
|------------------------------------|-------------------------------------|---------------------------|-------------------|
| Customer : | CU-DAR001 Dart Helicopters Services | Drawing Name : | ROUND BILLET 17-4 |
| Job Number : | 38688 | | |
| Estimate Number : | 10040 | | |
| P.O. Number : | | Part Number : | D6104005 |
| This Issue : | 4/18/2008 | S.O. No. : | |
| Prsht Rev. : | NC | Drawing Number : | D6104 REV B |
| First Issue : | / / | Project Number : | N/A |
| Previous Run : | 38211 | Drawing Revision : | B |
| | | Material : | |
| Written By : | | Due Date : | 4/30/2008 |
| Checked & Approved By : | JLO 08.4.18 | | |
| Comment : | Est. A: 01.05.08 New Issue EC | | |

Additional Product

Job Number:



| | | |
|----------------|------------------------------|----------------------|
| Seq. #: | Machine Or Operation: | Description : |
|----------------|------------------------------|----------------------|

1.0

PG

PURCHASING



Comment: PURCHASING

Issue P/O: 6184

a) Description: S.S round billet

b) Ø4.00" x 5.10" long

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Material: 17-4PH Stainless steel (Ams 5643 or Aisi 630)

e) One blank makes 2 parts

f) Material certification required

C 208104/21

(10)

2.0

D6104005P

17-4 SS Roundbar 4.00"OD



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)

17-4 SS Roundbar 4.00"OD

3.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

R 270/9 (10)

4.0

QC6

DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6104

S 08108109 (10)

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|--------------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

Date: Friday, 4/18/2008 11:54:10 AM
User: Chantal Lavoie

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ROUND BILLET 17-4

Job Number: 38688

Part Number: D6104005

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: CNC

27 08/05/14

6.0

QC21

FINAL INSPECTION/W/O RELEASE



08/05/15

Comment: FINAL INSPECTION/W/O RELEASE

Job Completion



u 08-05-14

Dart Aerospace Ltd

| W/O: | | WORK ORDER CHANGES | | | | | |
|------|------|--------------------|----|------|-----|-------------------------------------|--------------------------|
| DATE | STEP | PROCEDURE CHANGE | By | Date | Qty | Approval Chief Eng / Prod Mgr | Approval QC Inspector |
| | | | | | | | |
| | | | | | | | |

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

| NCR: | | WORK ORDER NON-CONFORMANCE (NCR) | | | | | | |
|------|------|----------------------------------|-----------------------------|---------------------------------|----------------|---------------------------|-----------------------|--------------------------|
| DATE | STEP | Description of NC Section A | Corrective Action Section B | | | Verification Section C | Approval Chief Eng | Approval QC Inspector |
| | | | Initial Chief Eng | Action Description Chief Eng | Sign & Date | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

NOTE: Date & initial all entries

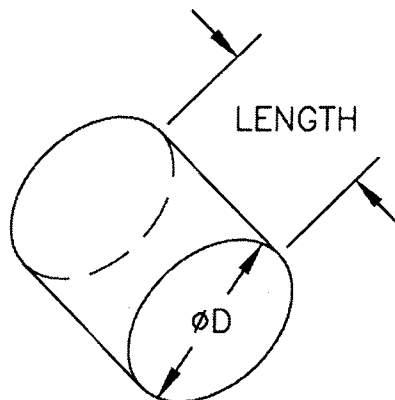


| | | | |
|------------------|--------------|--|------------------------|
| DESIGN DT | DRAWN BY | DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA | |
| CHECKED | APPROVED | DRAWING NO. D6104 | Rev. B SHEET 1 OF 1 |
| DATE 02.11.25 | | TITLE ROUND BILLET, 17-4 | SCALE NTS |
| A | 01.04.10 | NEW ISSUE | |
| B | 02.11.25 | CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS | |

RELEASED

02.11.29

SPECIFICATION CONTROL DRAWING



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRc)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

| Part No. | Alloy | D (Diameter) | Length |
|-----------|-------------------------|-----------------|--------|
| D6104-001 | 17-4 PH STAINLESS STEEL | Ø3.00 | 3.80 |
| D6104-003 | 17-4 PH STAINLESS STEEL | Ø3.25 | 3.80 |
| D6104-005 | 17-4 PH STAINLESS STEEL | Ø4.00 | 5.10 |
| D6104-007 | 17-4 PH STAINLESS STEEL | Ø4.50 | 5.10 |
| D6104-009 | 17-4 PH STAINLESS STEEL | Ø5.25 | 4.10 |
| D6104-011 | 17-4 PH STAINLESS STEEL | Ø6.50 | 4.10 |
| | | | |
| | | | |

Copyright © 2001 by DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

1208/04/18
W/O: 38688



P.O. BOX 977
SYRACUSE
NEW YORK 13201

CERTIFICATE OF TEST

A H CASTLE, INC

S H A H CASTLE, INC

OUR ORDER NO.

15-16289-7-01

3400 N WOLF RD

26800 MILES RD

DATE

FRANKLIN PARK, IL 60131

T BEDFORD HEIGHTS, OH 44146

11

02/21/08

| CUSTOMER ORDER # & DATE | CUSTOMER REQ. # | DISTRICT | SHIPPED FROM |
|-------------------------|-----------------|-----------|--------------|
| 10-34313 | | B PARSONS | SYRACUSE |

DESCRIPTION OF MATERIAL

SIZE

4 RD

CRU 17-4PH CO A IAC 14996

AMC-3174-03 REV 1B ASME-SAS64-07ED T630 ASTM-A564-04 T630

AMS-5643Q AMS-2303E AISI 630 UNS #B17400

HEAT NO.

CHEMICAL ANALYSIS

| HEAT NO. | C | MN | P | S | SI | NI | CR | MO | CU | CO | TA |
|----------|------|-----|------|------|-----|------|-------|-----|------|-----|------|
| A19613 | .044 | .61 | .029 | .019 | .44 | 4.26 | 15.30 | .11 | 3.20 | .28 | .013 |

CASTLE METALS CORP.

DATE RCVD

3/11/08

IAC 14996

APPROVED BY

QUANTITY

HEAT NO.

MECHANICAL PROPERTIES

3678 # A19613 TENSILE PSI YLD.22PSI ZELONG40 RED/AREAZ HARDNESS
BHN 347

CAPABILITY PHYSICALS AFTER 900 DEG. F. - 1 HR. AIRCOOL:
199,350 178,210 14.6 53.5 BHN 401

MACRO TEST OK

MICRO TEST OK

FERRITE 3 %

MAGNAFLUX F/S = 0/0

ELECTRIC FURNACE ADD MELTED

REDUCTION RATIO: 16.3:1

MATERIAL SOLUTION TREATED AT 1900 DEG. F. HELD 1 HOUR
AIRCOOLED.

AT TEMPERATURE -

CRUCIBLE MATERIALS CORP. VENDOR #18610.

MATERIAL INGOT CAST.

NAFTA - YES

MATERIAL FREE FROM MERCURY CONTAMINATION AT TIME OF SHIPMENT

NO WELD REPAIR PERFORMED

MATERIAL MELTED IN U.S.A.

THANK YOU FOR SELECTING A QUALITY PRODUCT

MANUFACTURED BY THE EMPLOYEES OF CRUCIBLE SPECIALTY METALS, IN

THE ABOVE MATERIAL WAS MANUFACTURED AND TESTED IN ACCORDANCE
WITH ABOVE SPECIFICATIONS AND IS IN CONFORMANCE WITH THOSE
SPECIFICATION REQUIREMENTS.

CRUCIBLE MATERIALS CORPORATION
ACTING BY AND THROUGH ITS SPECIALTY METALS DIVISION

SWORN TO AND SUBSCRIBED BEFORE ME THIS

DAY OF . 20

CERTIFIED
BY:

NOTARY PUBLIC

I. J. WOOLSON - QUALITY ASSURANCE REPRESENTATIVE